

Impact of COVID-19 Pandemic on School Internship Program of Pre-service Biology Teachers

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Abstract

Onset of COVID -19 pandemic in Wuhan, China in December 2019 and advent of pandemic in India with first case being reported on 27th January 2020 in Kerala and first case in Chhattisgarh reported on 19 th March in Raipur was alarming. The exponential rise in the Covid-19 cases and death rates not only in Chhattisgarh but all over India and across the globe led the Indian Government to impose strict lockdown as a measure to put a check on the increasing cases. Lockdown induced school closure raised challenges for students of B.Ed and D.El.Ed programs in continuing their school internship activities. School closure paved the way for paradigm shift from offline to online mode of teaching learning. However, online classes were successful only in urban areas and private schools where students as well as teachers had access to network and electronic devices. Students of rural areas and government schools belonging to low socio economic status families faced many challenges like no or limited access to electronic devices, smartphones, network and other e -resources. The present study aimed at investigating the impact of COVID -19 waves on school internship activities of B.Ed. students. Qualitative research design was employed for study. Sample comprised of 50 pre-service biology teachers selected purposively from 5 teacher training institutes of Raipur City. Data were collected using interview schedule and analysed using discourse analysis. The findings revealed that pre service teachers faced technical challenges as well as issue of digital divide in using online platform to teach biology during school internship. Pre service teachers faced difficulty in exploring and identifying their learners and could not cater to the needs of diverse learners. Student teachers countered problems in practicing micro teaching skills, preparing lesson plan and in providing hands on experiences in practical aspects of biology lessons. Thus ,all teacher education institute should strengthen the online teaching strategies for attainment of educational objectives even during crisis.

Keywords: School internship, Online platform, Paradigm shift, Pre-service Biology Teachers, Teaching strategies.

Introduction

School internship is an integral part of teacher education program. It is a real life work experience providing opportunities to experience and comprehend the classroom teaching learning process. Students of teacher education program are known as pre service teachers, pupil teachers, student teachers or future teachers. The pre service teachers get hands on experience of classroom teaching in school internship program. Internship is an initiative to build up prospective teachers efficacy. Internship helps in mastering the life skills, soft skills , development of positive attitudes, thus fostering the social maturity in interns (Chadha, 2021). In the current state of the education system, ICT integration in education offers better options for students, teachers as well as administrators (Roshan, 2020). National Education Policy, 2020 emphasizes technology enabled pedagogy from grade 6 . NEP 2020 states the extensive use of technology in teaching and learning, removing language barriers increasing access and education planning and management (Government of India, 2019).

School internship program plays a pivotal role in developing student teacher's potential and efficiency by providing field experience (Clark et al,2013). As per the NCTE regulation 2014, the B.Ed. school internship program is divided into 2 weeks of school observation in 2nd semester and 18 weeks of school teaching in 3rd semester. Onset of covid-19 pandemic has brought drastic changes in all realms of human life including education sector across the globe. Unprecedented lock down in March 2020 and in successive waves of Covid19 led to the closure of educational institutes, thus exposing the teacher education and student teachers to varied challenges and opportunities to continue their work experience in most unexpected situations(Flores & Gago, 2020;Nasri et al.2020;Talbot & Ovezada - Paker,2020). There was a paradigm shift from offline to online mode of teaching

learning. Online teaching experience provided opportunities to pre service teachers to interact with children and to enhance learning via online mode using online platforms like Google meet, Zoom, WebEx, Microsoft Teams etc.. Appropriate instructional strategies and approaches in teacher education program can support the student teachers online teaching and learning experience (Kim, 2020).

However the things were not the same for all. Student teachers attached with the schools where students had no or just limited access to technology resources and internet connectivity faced challenges in continuing the internship in first few weeks. In this condition, student teachers after realizing the whole situation, formed the WhatsApp groups and added students and even parents of the students who were not having the personal phones. Student teachers delivered all the instructional material in this groups by sending audio messages, video messages , PDFs, PPTs. Later on with the launch of various schemes by CG government such as Padhai Tumhar Dwar, Mohalla classes, butlu ke bol, student teachers took advantage of these and completed their internship.

Literature review

School internship experience expose student teachers to innovative techniques of teaching and learning (Darling-Hammond, 2006; Feiman-Nemser & Buchman, 1987; Shambaugh, 2016). Practical or field experience is indispensable to provide students opportunities to implement learning principles (Shambaugh, 2016). Pre service teacher training develop higher teaching efficiency (Flores, 2015; Singh, 2017). Teaching internship develop teacher efficiency particularly when student teacher has a facilitating supervisor during the internship activity (Hoy & Spero, 2005; Moulding et al, 2014). Teaching opportunities and school observation build teacher efficiency (Brown et al, 2015). Internship experience prepare the student teachers for the classroom realities (Davis & Roblyer, 2005).

Online teaching enabled pre-service teachers to teach differently from traditional teaching methods (Moreno-Guerrero et al, 2020). Student teachers used interactive /alternative methods to counter problems occurring during online learning (Ardiyansah, 2021). Teachers faced issues like motivating students and internet connectivity (Gurung, 2021); creating quality content for virtual teaching (Sangeeta & Tandon, 2020), network fluctuation , login issues video buffering (Hassan, 2021).

Online teaching can be used as a supplementary but can't be a substitute of face to face teaching - learning experience (Shah & Jani ,2020) due to technology and process of assessment (Kulal & Nayak, 2020; Mathur & Thomas, 2021). Students learn better in offline classes .Online classes has adverse effect on overall health (Chakraborty et al, 2020). Faculties need to be trained and institutions to be sensitized pertaining to paradigm shift (Pandit & Agrawal 2021); teachers to be trained at different levels (Rao, 2020)

Despite the challenges ,teachers have positive perceptions on online experiences (Kamal and Illyan, 2021). Covid-19 created not only challenges but opportunities as well for educational institutions for paradigm shift (Pravat, 2020). Online learning came out as a best solution during Covid-19 waves (Pravat, 2020 b). Pre service teacher show interest in online teaching (Amoah & Naah, 2020). Online education diversify the teacher knowledge enhancing their technical skills (Dubey & Singh, 2020).

Objectives of study

Based on the literature review and scenario during Covid-19 waves, following objectives have been framed.

- To investigate and analyse the impact of Covid- 19 pandemic on the school internship program of pre service biology teachers.
- To investigate the challenges faced by the student teachers during the school internship.

Research Design

Qualitative research design employing survey method was used for the study. The sample comprised of 50 students (35 female ,15 male) purposively selected from population of B.Ed students of Raipur district.

Primary data was collected using self made interview schedule based on issues and challenges faced by pre service biology teachers, covering dimensions of technology competency , instructional strategies , digital divide and progress monitoring . The tool was validated using face validity, seeking opinion from 2 experts.

Interview schedule

The open ended, subjective interview schedule encompassing dimensions of technology competency, instructional strategies, digital divide and progress monitoring was framed having following items.

- **Technology competency**

1. Are you ICT competent?
2. Which online platform did you use to teach biology during school internship?
3. Have you ever used any online platform before Covid19 pandemic ?
4. What kind of technical challenges did you counter during online school internship?
5. How did you overcome these challenges?

- **Instructional strategies**

1. How did you practice the micro teaching skills?
2. Did you prepare the lesson plan?
3. How did you prepare the lesson plan?
4. what kind of teaching aids did you use?
5. What were the challenges faced while using the teaching aids?
6. How did you explore your learners?
7. How did you cater to the needs of diverse learners?
8. What you did to cover the practical aspects of the lesson?

- **Digital divide**

1. What challenges were posed due to digital divide?
2. What you did to overcome the issues arising due to digital divide?

- **Monitoring progress**

1. How did you monitor the learning in students?
2. What you did to check the learning in case of diverse learners?

Data analysis

Data collected was analysed using discourse analysis. There are five approaches of qualitative research in social science viz., phenomenology, grounded theory, discourse analysis, narrative research and intuitive enquiry (Wertz et al , 2011). Discourse analysis examines the way the language is used to fulfill interpersonal and social interaction (Starks and Trinidad, 2007). Researcher is the primary tool for data collection and data analysis in discourse analysis (Merriam, 2009).

Findings

Data analysis revealed the following results.

Technology competency

Initially the pre service biology teachers faced technical issues while using online platforms such as zoom and Google meet as they were not having any prior experience of using such online platforms. Students faced technical issues like generating link, sending link to the students group, setting of camera, focusing camera ,volume issues, sharing of screen ,using whiteboard and even time limit.

But with the passage of time and regular usage of online platform, student teachers developed competency. This is in line with the Dubey & Singh (2021) findings that online education diversifies the teacher knowledge enhancing their technical skills.

Instructional strategies

Pre service biology teachers faced issues in preparing and implementing lesson plan in their classes as they could not practice microteaching skills like stimulus variation, illustration, reinforcement and blackboard skills in online mode.. Pre-service biology teachers also faced problems in choosing pedagogical practices for online classes.

Student teachers faced problems in identifying their learners needs and learning styles because of the time management and technical glitches like network fluctuations and lack of control on all students as some students always kept their audio and video in off mode.

Pre service biology teachers used YouTube videos, PPTs, PDFs, different learning websites for teaching and displayed the models, charts and posters. Practicals were also covered through YouTube videos but students could not actively participate, they simply observed the process. They were having theoretical knowledge of pedagogy of

biological sciences but lack in the knowledge of conducting practicals in online classes. This goes well with the Shah & Jani (2021)'s outcome that online teaching can't replace classroom teaching learning experiences.

Digital Divide

Digital divide was the biggest challenge faced by pre service biology teachers during school internship. Most of the students of government schools were from less affluent families having low socio economic status. They lack access to e - resources, internet connectivity and had limited budget to avail data pack. In such families, it was only father who had mobile phone. To teach such students, pre-service teachers added their parents in WhatsApp groups and delivered study material to them. Pre service teachers also availed the government schemes like padhai tumhar dwar, mohalla classes and butlu ke bol to teach such students. Few cases were such that the pre service teacher herself was not having access to network connectivity being residing in remote areas of Chhattisgarh.

Monitoring Progress

Monitoring the students progress was the biggest challenge faced by the pre service teachers. However, they tried to assess their students through Google forms, but not all the students responded. The pre service biology teachers could not assess the attainment of affective and psychomotor objectives as these require hands on work experience to get fulfilled.

Issues and challenges encountered in online school internship program

On the basis of data analysis and interpretation it is revealed that pre service biology teachers were not trained for online internship and majority of the students were technology incompetent. Micro teaching skills like stimulus variation, illustration, reinforcement, laboratory skills that are very important for biology teacher efficacy were not practiced and developed as these require active participation. Various technology issues like fluctuation in network, connectivity, data exhaustion, digital divide, lack of e- resources, limitation of e- resources etc. hampered online internship activities. Practical aspects requiring hands on experiences like preparing slides, dissection were not possible in online mode as students remained passive learners in online mode and some of the students always kept their audio and video muted.

Discussion and conclusion

Like other educational institutes, teacher education institute were also affected badly by the lockdown as school closure had direct effect on school internship program. Some teacher education institute skipped the internship activity while others conducted it in online mode. The student teachers were communicating using various platforms like Zoom, Google meet, WhatsApp and e-mail, using a combination of synchronous and asynchronous instructional strategies. Pre service biology teachers account indicates the major impact on school internship program being the technical incompetency of future teachers, digital divide, fluctuations in internet connectivity, technical glitches like audio and video clarity issues etc. Survey revealed that students enjoyed synchronous learning as they can see teachers and peers, communicating with each other. Inequalities among students, pertaining to their socio economic status and lack of physical interactive learning environment led to learning loss in biology. This finding goes in hand with the Srivastava, S. (2022) outcome on learning loss in biology. Creative strategies need to be developed to ensure access to online teaching learning in pandemic period in future. Efforts need to be taken for optimal utilisation of virtual platform in the time of such crisis. All educational institute need to equip them with the requisite knowledge and infrastructure so as to overcome such situations in future. All the teacher education institute should work in the direction of promoting virtual instructional strategies to ensure attainment of cognitive, affective and psychomotor objectives.

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